SANTA CRUZ BIOTECHNOLOGY, INC.

creatine kinase-M/B (BDI937): sc-56895

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Creatine kinases (CKs) are a large family of isoenzymes that regulate levels of ATP in subcellular compartments, where they provide ATP at sites of fluctuating energy demand by the transfer of phosphates between creatine and adenine nucleotides. Creatine kinases provide the energy of phosphate hydrolysis necessary to drive the normal function of many cellular systems including muscle, electrocytes, retina photoreceptor cells, brain cells, kidney, salt glands, myometrium, placenta, pancreas, thymus, thyroid, intestinal epithelial cells, endothelial cells, cartilage and bone cells, macrophages, blood platelets, and tumor and cancer cells. Human cytoplasmic creatine kinase-B, also designated CK-B and BCK, is a 381 amino acid, brain tissue-specific isoform of creatine kinase. Human cytoplasmic creatine kinase-M (CK-M, MCK) is a muscle tissue-specific isoform of creatine kinase. Human cytoplasmic creatine kinase-Mi (Mi-CK, MtCK) is a 416 amino acid mitochondrial-specific isoform of creatine kinase. Cytosolic creatine kinases are important in the energetic regulation of Ca^{2+}-pumps and in the maintenance of Ca^{2+}-homeostasis.

REFERENCES

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3. Mariman, E.C., Schepens, J.T. and Wieringa, B. 1989. Complete nucleotide sequence of the human creatine kinase-B gene. Nucleic Acids Res. 17: 6385.
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5. Wallimann, T. and Hemmer, W. 1994. Creatine kinase in non-muscle tissues and cells. Mol. Cell. Biochem. 133-134: 193-220.
6. Wallimann, T., Dolder, M., Schlattner, U., Eder, M., Hornemann, T., O'Gorman, E., Ruck, A. and Brdiczka, D. 1998. Some new aspects of creatine kinase (CK): compartmentation, structure, function and regulation for cellular and mitochondrial bioenergetics and physiology. Biofactors 8: 229-234.

CHROMOSOMAL LOCATION

Genetic locus: CKM (human) mapping to 19q13.32, CKB (human) mapping to 14q32.32.

SOURCE

creatine kinase-M/B (BDI937) is a mouse monoclonal antibody raised against creatine kinase-M/B dimer of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 100 µg IgG_1 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

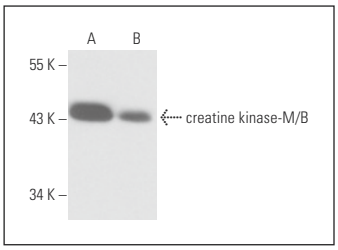
APPLICATIONS

creatine kinase-M/B (CK-10) is recommended for detection of creatine kinase-M/B of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Molecular Weight of creatine kinase-M/B: 43 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, A-673 cell lysate: sc-2414 or HeLa whole cell lysate: sc-2200.

DATA



creatine kinase-M/B (BDI937): sc-56895. Western blot analysis of creatine kinase-M/B expression in SH-SY5Y (**A**) and HeLa (**B**) whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.